

What Is Claimed Is:

1. A method of making a laminate elastic fabric, comprising the steps of:

5 a) providing a first and second nonwoven fabric web comprised of thermoplastic polymers having a CD elongation of at least 120%;

b) providing an elastic film comprised of a vinylidene isoprene polymer having a thickness of between about 0.5 and 3.5 mils;

10 c) positioning said elastic film between said first and second nonwoven webs, in face to face juxtaposition, said first and second nonwoven webs and said film being in substantially relaxed, untensioned states; and

d) applying elevated temperature to affix said nonwoven webs to said film, said elevated temperature provided by contact with an engraved calender roll having a discontinuous bond pattern of no greater than 15% land area.

15 2. A method of making an elastic fabric as in claim 1, wherein said attaching of said first non-woven web to said elastic film comprises extrusion coating said elastic film onto said web.

3. A method of making an elastic fabric as in claim 1, wherein said non-woven fabric web has a CD elongation of at least 150%.

20 4. A method of making an elastic fabric as in claim 1, wherein said non-woven web comprises a member chosen from the group consisting of spunbond continuous filaments, meltblown continuous filaments, hydroentangled carded staple fibers, thermally bonded carded staple fibers, and adhesively bonded carded staple fibers.

25 5. A method of making an elastic fabric as in claim 1, wherein said vinylidene isoprene film comprises 70-95% of a block copolymer with the general formula chosen from the group consisting of:

30 A-B-R-(B-A)_n where A is a monovinylidene aromatic monomer, B is a conjugated diene, R is a remnant of a multifunctional coupling agent, and *n* is an integer from 1-5; and

$A_x-(BA)_y-BA$ where A is a monovinylidene aromatic monomer, B is a conjugated diene, x is from 0-1, and y is from 0-3.

6. A method of making an elastic fabric as in claim 1, wherein said vinylidene isoprene film has a thickness in the range of about 2.0 to 2.5 mils.

5 7. A method of making an elastic fabric as in claim 1, further comprising the steps of providing a second non-woven fabric web comprised of thermoplastic polymers, and attaching said second non-woven fabric web to said elastic film.

10 8. A method of making an elastic fabric as in claim 7, wherein said second non-woven web is calendered to said film at a temperature in the range of the film melting point.

9. A method of making an elastic fabric as in claim 1, wherein said non-woven web has a basis weight between about 10-100 gm/m².

15 10. A method of making an elastic fabric as in claim 1, wherein said non-woven web has a basis weight between about 15-50 gm/m².

11. A method of making an elastic film as in claim 1, further comprising the step of tensioning the laminated fabric in the machine direction after attaching said non-woven layer to said elastic layer, and subsequently releasing the tension to thereby increase machine direction elongation and decrease stretch force.

12. An elastic non-woven laminate fabric, comprising:

a) a first and second non-woven fabric web comprised of thermoplastic polymers, said web having a CD elongation of at least 120% and a basis weight of between about 10-100 gm/m²;

25 b) an elastic film comprised of a vinylidene isoprene polymer; said film having a thickness of between about 0.5 to 3.5 mils; said elastic film attached to said first and second non-woven webs with said film and said web in substantially relaxed, un-elongated states; and the elastic non-woven laminate fabric having a CD elongation of at least 120% with an elastic recovery of at least 85% after three cycles of 100% elongation;

c) said elastic film being juxtaposed between said first and second nonwoven web in a laminate construction; and

d) said laminate construction having a discontinuous bond pattern of no greater than 15% land area.

5 13. An elastic non-woven laminate fabric as in claim 12, wherein said non-woven fabric has an elastic CD recovery of at least 90% after three cycles of 100% elongation.

 14. An elastic non-woven laminate fabric as in claim 12; wherein said non-woven web and the elastic laminate fabric each have CD elongation
10 of at least 150%.

 15. An elastic non-woven laminate fabric as in claim 12; wherein said elastic film is extrusion coated on said non-woven web.

 16. An elastic non-woven laminate fabric as in claim 12, wherein said non-woven web comprises a member chosen from the group consisting of
15 spunbond continuous filaments, meltblown continuous filaments, hydroentangled carded staple fibers, thermally bonded carded staple fibers, and adhesively bonded carded staple fibers.

 17. An elastic non-woven laminate fabric as in claim 12; further comprising a second non-woven web attached to said film.

20 18. An elastic non-woven laminate as in claim 17, wherein said second non-woven web is attached to said film by thermal calendering at a temperature in the melting range of said film.

 19. An elastic non-woven laminate fabric as in claim 12; wherein said vinylidene isoprene film has a thickness in the range of about 2.0 to 2.5
25 mils.

 20. An elastic non-woven laminate fabric as in claim 12; wherein said vinylidene isoprene film comprises 70-95% of a block copolymer with a general formula chosen from the group consisting of:

$A_x-(BA)_y-BA$ where A is a monovinylidene aromatic monomer, B is a
30 conjugated diene, x is from 0-1, and y is from 0-3; and

A-B-R-(B-A)_n where A is a monovinylidene aromatic monomer, B is a conjugated diene, R is a remnant of a multifunctional coupling agent, and *n* is an integer from 1-5.

5 21. An elastic non-woven laminate fabric as in claim 12; wherein said non-woven web has a basis weight of about 15 – 50 gm/m².

 22. An elastic non-woven laminate fabric as in claim 12; wherein said laminate fabric further comprises a substantially smooth surface free of puckers or gathers.

10 23. An elastic nonwoven laminate fabric as in claim 12; wherein said laminate fabric is used in the construction of protective apparel.

 24. A disposable waste-containment garment, comprising;
 an absorbent core,
 a liquid pervious topsheet,
 a liquid impervious backsheet,
15 a number of elastic fitments,
 one or more of said elastic fitments comprising an elastic laminate,
 said elastic laminate comprising:

 i) a first and second non-woven fabric web comprised of thermoplastic polymers, said web having a CD elongation of at least 120% and
20 a basis weight of between about 10-100 gm/m²;

 ii) an elastic film comprised of a vinylidene isoprene polymer; said film having a thickness of between about 0.5 to 3.5 mils; said elastic film attached to said first and second non-woven webs with said film and said web in substantially relaxed, un-elongated states; and the elastic non-woven
25 laminate fabric having a CD elongation of at least 120% with an elastic recovery of at least 85% after three cycles of 100% elongation;

 iii) said elastic film being juxtaposed between said first and second nonwoven web in a laminate construction; and

 iv) said laminate construction having a discontinuous bond pattern
30 of no greater than 15% land area.

25. A disposable waste-containment garment as in claim 24, wherein the garment is a diaper.